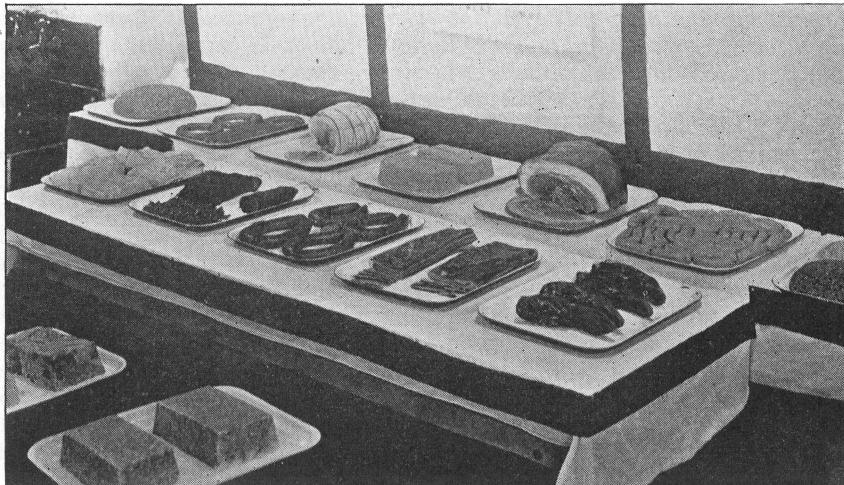


December, 1916

Lesson 119

The Curing of Meat and Meat Products on the Farm

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Cornell Reading Course for the Farm

Published by the New York State College of Agriculture
at Cornell University, Ithaca, New York

M. C. BURRITT, Director of Extension Service

Published and distributed in furtherance of the purposes provided for
in the Act of Congress of May 8, 1914



THE CURING OF MEAT AND MEAT PRODUCTS ON THE FARM¹

K. J. SEULKE

The practice of curing meat has been followed for centuries. With each succeeding year new forms and varieties of cured meats are found on the market, but the principle underlying the process of curing is practically the same as at the beginning. The only difference is in the resulting flavor and appearance of the product and in the containers used, with a slight variation also in the ingredients.

The primary object in curing meats is to preserve them for future use, but their flavor and palatability may be improved at the same time. Meats that are unpalatable and unattractive in the fresh state may be ground, seasoned, and partially cooked; thus treated, they are greatly improved in quality, and may have gained in digestibility altho this is not always the case.

On the farm but few kinds of cured meats are used. Pork is practically the only meat treated in this way. The aim is too often merely to preserve the meat, and flavor and palatability are not considered. For the sake of variety, it would be well to spend a little time in curing meats other than pork. The object in presenting this lesson is to discuss a few of the commoner cured meats and meat products, and to give directions for preparing them on the farm.

KEEPING FRESH MEAT

Since certain parts of the animal carcass are more valuable in the fresh state than when preserved, it may be well to consider the various methods of keeping fresh meat before taking up methods of curing.

All meat to be preserved, either fresh or cured, should be thoroly cooled after the animal is slaughtered, for unless this is done the meat will not cure well nor will it be possible to keep it in a fresh state for any length of time.

In cold weather meat may be kept by hanging it in a dark, cool place, where dogs, cats, and rodents cannot reach it. If a temperature below 40° F. is maintained, meat may be kept for weeks; but with the temperature alternating between low and high, it will not keep well. Meat that is frozen will keep indefinitely so long as it remains frozen. Alternate freezing and thawing will spoil the flavor and cause early decomposition. It is important that the meat be kept in a place where the air is dry. A dark, cool cellar, or an attic that is dry and free from odors, is the proper place for keeping meat on the farm.

Meat packed in snow may be kept for a considerable length of time. The meat should first be frozen hard. After it is frozen, an earthen jar or

¹This is a revision of Cornell University Agricultural Experiment Station Circular 27.

a barrel should be provided, and a thick layer of snow should be tamped tightly in the bottom of this. On the snow a layer of meat is packed, and covered with another layer of snow. Care must be taken to have a thick layer of snow between the meat and the inner surface of the receptacle. Another layer of meat is then put on, and another layer of snow, and so on until all the meat is packed or the jar is almost full, when a heavy covering of snow should be put on top and covered with a block or some other object in order to keep out rats and mice. The meat may be taken out as needed, and the snow should be repacked on top each time.

Another method that is commonly used with pork and sausage is to partly cook the meat by frying it on both sides, pack it in a jar, and pour hot lard over it in order to seal the whole and keep out air. The meat may be taken out as needed. Care should be taken each time to melt the lard that is taken off, and to pour it back.

CURING MEATS

As has already been stated, meat should be thoroly cooled before it is cured. It is equally important, however, that the meat shall not be in a frozen condition, for if it is frozen the brine or pickling solution cannot penetrate freely and the meat will not be of even flavor thruout.

VESSELS

The vessels used for curing meats are of various sorts and sizes, depending on the amount of meat to be cured and the expense to which the owner cares to go.

Large earthen jars or crocks give the best results, but these are somewhat expensive — eight to ten cents per gallon of capacity — and they are very easily broken if not carefully handled.

Tight hardwood barrels may be used. New barrels or barrels that have contained molasses should be used, never vinegar or kerosene barrels unless they have been burned out on the inside. If molasses barrels are used, they should be thoroly scalded.

CHEMICALS USED AS PRESERVATIVES

The principal preservatives used are salt, sugar, and molasses, and their combinations. Chemicals forbidden by law and those known to have a bad effect on health should not be used.

Salt preserves meat thru its astringent and slightly germicidal action. It hardens the muscle fibers and draws the moisture from the meat.

Sugar and molasses have an almost opposite effect. They cause the retention of the moisture of the meat, and keep the muscle fibers soft and tender. Therefore salt and sugar are commonly used together, as the sugar gives a desirable flavor and prevents the hardening action of the salt.

Saltpeter is often used to retain the natural reddish color of the meat. It is detrimental to health and should be used sparingly if at all.

DIRECTIONS FOR CURING MEATS

PORK

SUGAR-CURED HAMS, BACONS, AND TONGUES

Method I. After the meat has been thoroly cooled, the carcass may be cut up and cured. Sugar-cured pork is preferable to dry-cured pork or plain salt pork because of its pleasant flavor and because the meat is not so dry and hard. Beef tongues may be cured in the same pickle with the pork. All the pork carcass may be cured except the loins, which are used fresh for chops and roasts, the spareribs, which are used fresh, and the trimmings, which are used for lard and sausage. The hams, shoulders, and bacons are sugar-cured, and the fat backs are dry-cured or pickled in a plain salt pickle.

Before the meat is placed in pickle or salt, all corners and ragged edges should be cut off and used for sausage and lard. If they are left on they will be wasted, for they will be thoroly soaked by the pickle and will be of no use.

Rub the pork thoroly with salt, and pack it in a cool place over night. The next day pack it in a barrel or an earthen jar, with the heaviest hams and shoulders at the bottom, the lighter hams and shoulders next, and the bacons and tongues at the top.

For every 100 pounds of meat weigh out 10 pounds of salt, $2\frac{1}{2}$ pounds of brown sugar, and 2 ounces of saltpeter. Rub these together thoroly, taking care that the saltpeter is finely powdered. Dissolve the whole by stirring it into 4 gallons of boiling water. Allow this brine to cool thoroly, and then pour it over the meat. If it does not entirely cover the meat, add more water. The brine should cover the meat at all times. The meat may be weighted down with a block if necessary, for if it is not covered the projecting meat will decompose in a short time.

If the brine shows signs of fermenting during the curing process, it should be drawn off, boiled, and cooled, and then poured back on the meat.

The bacon and tongues may be taken from the pickle after four to six weeks, and after being washed in warm water they may be hung in the smokehouse and smoked. The lighter hams and shoulders will be ready to take out of the pickle in six to eight weeks, and the heavier ones at the end of the eighth week.

Method II. Another recipe for sugar-cured hams, bacons, and tongues that has given good results is as follows:

Pack the thoroly cooled meat in a cool, dry place, on a table that has previously been covered with a layer of salt. Sprinkle salt over each piece of meat, and add alternate layers of meat and layers of salt until all is packed.

Allow the meat to remain in the salt for eight to ten days, and then wash off the salt with lukewarm water. The meat is now ready to go into the pickle, which is mixed as follows: To 18 gallons of water add 5 pounds of brown sugar, a small handful of saltpeter, and 1 tablespoonful of ginger. Stir the mixture until the solids are all dissolved, and then stir in 12 pounds of salt. Stir until all the salt is dissolved. This amount can be increased or decreased according to the amount of meat to be pickled. Ordinarily one-fourth of this mixture will be enough for 100 pounds of pork.

The pickle should test 75° with the hydrometer test. If a hydrometer is not at hand, drop a fresh egg into the pickle; if the egg floats almost submerged, the brine is of the proper strength.

Pack the meat in a barrel or a jar, with hams and shoulders weighing over 10 pounds on the bottom, those weighing less than 10 pounds next, and the bacon strips and tongues on top. Pour the brine over the meat so that it is all covered, and weight it with a block so that none of the meat projects from the brine.

The bacons and tongues may be removed from the brine at the end of three weeks, the lighter hams and shoulders at the end of five weeks, and the heaviest ones after six to seven weeks. After the meat is removed from the brine, it should be washed in warm water in order to remove the crust of brine and any scum that may have formed, and after drying for an hour or more it may be hung in the smokehouse and smoked.

BRINE SALT PORK

Pack thoroly cooled pork in a barrel or a jar after having rubbed each piece with salt. The following day weigh out for each 100 pounds of meat 10 pounds of salt and 2 ounces of saltpeter. Mix these, and dissolve the mixture in 4 gallons of boiling water. Allow this brine to cool thoroly, and then pour it over the meat in the barrel. Place a block on top in order to keep the meat submerged.

Fat backs are ordinarily used for salt pork cured in brine, but any part of the carcass may be cured in this way. The meat cures best when cut in strips or in six-inch squares.

The meat should be left in the brine and be taken out as needed.

DRY-CURED PORK

To dry-cure meat involves more work than to brine-cure it, altho it is a little less expensive in some cases. It is less difficult to merely salt the meat, pack it in a jar, and pour the brine over it, than to rub the meat several times with the dry mixture. Also, the brine-cured meat is not so dry and is a little more palatable. Brine-cured meat can be kept anywhere as long as it is kept cool; dry-cured meat, on the other hand, should be kept in a cool, moist place, in order to insure even curing. With brine-cured meat there is no danger from rats and other vermin; but flies must be kept away from meat cured in either way.

In dry-curing pork, weigh out for every 100 pounds of pork 6 pounds of salt, $2\frac{1}{2}$ pounds of granulated sugar, and 2 ounces of saltpeter, and mix thoroly. Divide the mixture into three portions. Rub one portion on the meat the first day, and pack the meat in a barrel. Leave it for three days. At the end of the three days take the meat out of the barrel, rub it with a second portion of the mixture, and repack it. Three days later rub the meat with the third and last portion of the mixture, and repack it. Let it stay in the barrel for ten to fourteen days. Then remove it, wash it in warm water, and smoke it.

PICKLED PIGS' FEET

Take well-scraped pigs' feet, with the toes removed, and soak them in cold water over night. The next morning put them in a kettle, add enough water to cover them, and let them cook until soft. This will

require about five hours. Salt should be added to the water during the cooking. When the pigs' feet are soft, remove them from the water, split them, pack them in an earthen jar, and pour hot vinegar over them. Spices of various kinds may be added to the vinegar if desired.

HEADCHEESE

Headcheese is made from the part of the head of the hog that would otherwise be wasted. When properly prepared it is a delicacy. The feet, as well as the head, may be used for this purpose.

Skin the hog's head, remove the eyes and the brain, and split the head thru the midline, or down the center of the forehead and the nose. Usually the jowls are removed and salted. Put the head pieces into a cooker, add enough water to cover the meat, and boil the whole until the meat parts come readily from the bone. Remove the meat, separate it from the bones, and chop it finely. Remove the liquid from the kettle and save it for further use. After the meat is chopped, return it to the kettle, pour out enough of the liquid to cover the meat, and allow it to cook for ten or fifteen minutes. While this final cooking is taking place, season the mixture with salt and pepper to suit the taste.

Put the cooked meat and the liquid that remains into jars, pans, or a cold-meat press, place a weight on top, and allow the meat to cool. It will then be solid and can be sliced and eaten immediately.

LARD

Lard is made from the fat of the hog carcass. Three grades of lard are obtained from three parts of the body: the best grade, leaf lard, is made from the leaf, or layer of fat lying inside the abdominal wall; the second grade is made from the backs, the sides, and the pieces trimmed from the various cuts; the third and poorest grade is made from the intestinal, stomach, and pluck fats. The last is much stronger than the other two and should not be mixed with them. On the farm the first two grades are usually made together, and sometimes all three are made together.

Cut the fat into bits about one inch square, and trim out all particles of meat as they give an unpleasant burned flavor to the lard and are the first to scorch if the kettle becomes too hot. Put the pieces of fat into a kettle, and add a little water, not more than a quart, to keep the fat from burning until some of the lard has melted.

Keep the kettle hot until the cracklings are brown and rise to the top. Skim off the cracklings, and press out the lard that remains in them. Draw off the melted lard, and add a little baking soda to help whiten it. The lard should be stirred while it is cooling, in order to make it as white as possible.

BEEF

Beef is not so commonly cured as pork; but when corned it takes the place of fresh beef during periods of the year when fresh beef does not keep well, and also offers a method of preserving part of the meat until it is needed and thus saving a waste or loss of meat, since it is impossible for one family to use an entire beef carcass in the fresh state. Dried beef commands a high price on the market. It also offers a method of

preserving meat for future use. Jerked beef is made in the drier regions of the West. The climate of New York State is not dry enough nor warm enough to cure it successfully, and it is not so palatable as dried beef.

CORNED BEEF

Method I. Since corned beef is used for practically the same dishes as fresh beef, only wholesome, untainted meat should be used for this purpose. Naturally, the choicer the meat that is put into the pickle, the better will be the meat that comes out. The cheaper cuts of beef are ordinarily used for corning, because the choicer cuts are more palatable in a fresh condition. Plate, flank, shoulder, chuck, cross ribs, and rump are most commonly used for corning.

Frozen meat should not be put into the brine; neither should the brine be frozen while the meat is in it.

Weigh the meat. Cut it in pieces about six inches square. Place a layer of salt on the bottom of the vessel in which the meat is to be packed, cover this with a layer of meat, and sprinkle a layer of salt over the meat. Add alternate layers of meat and of salt until the meat is packed. Seven to nine pounds of salt will usually be enough for 100 pounds of meat. Allow the meat to stand in the salt over night. On the following morning make a brine, using 5 pounds of sugar, $2\frac{1}{2}$ ounces of baking soda, and 3 ounces of saltpeter for every 100 pounds of meat. Dissolve these ingredients in 4 gallons of boiling water. Allow the brine to cool thoroly before pouring it over the meat. If more or less than 100 pounds of meat is to be cured, use these proportions for the brine. If 4 gallons of brine does not entirely cover 100 pounds of meat, water may be added. The meat should be weighted down with a block or a clean stone, since any part that is not covered with the brine will decompose very quickly.

If the brine shows signs of fermentation in warm weather, it should be drawn off, boiled, strained thru a clean cloth, and after it is thoroly cooled, poured back on the meat.

The meat should be kept in a cool, dark place. At the end of thirty days the meat will be ready for use. If the pieces are larger than six inches square, a longer time may be allowed, according to the size of the pieces.

Method II. The formula given under Method II (page 149) for sugar-cured hams and bacons may be used for corned beef also.

Pressed corned beef. After the corned beef, prepared as described above, has been in the pickle for the required length of time, it may be taken out, and, after the brine is washed off, may be used in the same way as fresh beef. If desired, it may be made into pressed corned beef. This is prepared as follows: Remove the beef from the pickling solution, wash it with warm water, and place it in a kettle. Keep it barely covered with water at all times, and boil it for two hours. Salt and pepper may be added while the meat is cooking, but usually there is enough salt in the meat from the brine. Take the meat from the kettle and pack it in pans or in a cold-meat press. Strain the broth thru cheesecloth or muslin several times, replace it on the stove, boil it down to one-half its original

volume, pour it over the meat in the pans, and allow the whole to harden in a cool place. After the meat has hardened it may be sliced and eaten without further preparation.

DRIED BEEF

Dried beef is usually made from the round, altho any heavily muscled part may be used for this purpose. The inside of the round makes the tenderest meat. In cutting meat for dried beef, the muscles should be separated into their natural divisions. When cured and smoked in this way they can be sliced across the grain, and the meat is much tenderer than would otherwise be the case.

A jar or a barrel is the best receptacle in which to pack the meat when curing it. To each 100 pounds of well-cooled beef weigh out 6 pounds of fine salt, 3 pounds of granulated or brown sugar, and 2 ounces of saltpeter. Mix these thoroly, without wetting, and divide the mixture into three portions. Set two portions away for future use, and rub the other portion into the meat. Pack the meat in the jar and leave it for three days. At the end of the three days take the meat from the jar, but leave in the jar the sirup that has formed. Rub the meat with another portion of the mixture, repack it, and leave it for three days. Remove it from the sirup, rub it with the last portion of the mixture, and repack it in the sirup in the jar. After three days remove the meat and hang it in the smokehouse, where it should be smoked until it is dry. It should then be kept in a dry place until it is used. The longer it is smoked and the drier it is kept, the longer it will remain good.

PICKLED BEEF TONGUES

The recipe given on page 149 for sugar-cured hams and bacons may be used also for pickling beef tongues.

MUTTON AND LAMB

Mutton and lamb are seldom, if ever, cured on the farm. In the larger packing houses, mutton is sometimes partly cured in a plain salt pickle, and then cooked and packed in cans, which are soldered shut while the meat is still hot.

SAUSAGES

Sausage has been made for centuries. Its origin is said to have been traced to the ancient Egyptians. Whether this is true or not, at least it is known that centuries ago, in Europe, because of low wages and the high price of meat, the poorer classes were compelled to use the cheaper grades of meat. These they soon learned to make into sausages of different kinds, which were more palatable than the meat from which they were made and could be preserved for a considerable length of time.

Very good sausages can be made from the scraps that would otherwise be wasted in the butcher shop and on the farm. Such pieces as cheeks, trimmings, jowls, pork hearts and tongues, mutton hearts and tongues, and many other scraps that are seldom used fresh, will make a very palatable sausage and will serve for this purpose as well as any other meat.

Besides using scraps of meat and meat from poor and tough carcasses,

the sausage maker also adds to his sausage such fillers as starch, potato flour, rice flour, cornmeal, wheat flour, and buckwheat flour. The purpose of these fillers is to cut down the cost and the shrink, and to give a body, or solidity, to the sausage. This can be done on the farm if it is deemed advisable.

PRESERVATIVES

Preservatives of different kinds are used in the packing house, in order to prevent the decomposition of sausage meat when it is to be held for some time after it is ground and before it is put into casings or sold. On the farm this is seldom the case, and preservatives are not needed other than the salt and spices used in seasoning.

HAMBURG STEAK

This is the simplest form of sausage made and consists simply of fresh beef run twice thru a grinder. It may be seasoned after the first grinding, or left unseasoned. It is never stuffed into casings. Any part of the beef carcass may be used for hamburg steak, but the best quality is made from the round.

MIXED SAUSAGE

This is made by mixing beef and pork in such proportions as to suit the taste of the consumer. This kind of sausage is usually made if the consumer dislikes the extremely fat undiluted pork sausage. It is seldom stuffed into casings, but is usually left loose and made into pats when fried. The following proportions of beef and pork give excellent results:

2 parts lean pork
3 parts lean beef
1 part fat pork

PORK SAUSAGE

Pork sausage should be made from clean, fresh pork scraps, or the cheaper parts of the meat. The meat should be in the proportion of three parts of lean pork to one of fat pork. This should be run thru the grinder, spread out and seasoned with salt, pepper, and sage, and reground. Usually $1\frac{1}{2}$ ounces of fine salt, $\frac{1}{2}$ ounce of ground black pepper, and $\frac{1}{2}$ ounce or less of ground sage, for 6 pounds of meat, makes a satisfactory seasoning.

Pork sausage either is used loose, being made into pats and fried, or is stuffed into pork casings and double-linked. If left loose it can be packed in jars until used. If it is to be kept for a long period, it may be run into cloth bags and smoked for a short time. The linked sausage may also be smoked for a short time in order to preserve it. If it is to be kept until summer, it may be partially cooked, packed in a jar, and covered with hot lard.

BOLOGNA SAUSAGE

Bologna sausage is the commonest and most generally used type of sausage sold in America. It receives its name from the town of Bologna, in Italy, where it is said to have originated. It is common thruout Italy and all Europe, and this fact probably accounts for the quantities that are bought by Europeans in America. It is very palatable and is

in demand in almost every locality. The ingredients used in making bologna sausage are wholesome and nutritious, but not especially palatable. This makes it economical to make, and the seasoning used makes it palatable. Many adulterations are commonly used in the making of bologna, and it is put up in a number of forms. The following formula gives only the most satisfactory ingredients and combinations used in its manufacture.

To eight parts of lean beef use one part of fat pork. Cut the meat into small pieces, mix, and grind. After the meat is ground the first time, spread it out and season with salt, pepper, and mace or ground coriander. Usually $1\frac{1}{2}$ ounces of fine salt, $\frac{1}{2}$ ounce of ground black pepper, and $\frac{1}{4}$ ounce of ground mace or ground coriander, for 6 pounds of meat, makes a satisfactory seasoning. After the spice is mixed in, regrind the meat and stuff it into casings. Bologna is stuffed either into beef rounds, middles, or bungs. If middles are used, the sausages are made ten to twelve inches long and left straight; if rounds are used, they are made fifteen inches long and the ends are tied together to form a ring; if bungs are used, they are made twelve to fifteen inches long and left straight. After the sausage is stuffed, it is allowed to dry for an hour and is then hung in the smokehouse and smoked for eight or ten hours. In smoking, it is important to have as much smoke as possible and very little heat, for if the heat is too great the sausage will burst and be of no value. After smoking, the sausages are cooked for varying lengths of time, depending on the size, and are then hung on poles to dry. Cook long bolognas for twenty minutes at 155° F., round bolognas for twenty minutes at 155° F., and bung, or large, bolognas for one hour at 160° F.

VIENNA SAUSAGE

Vienna sausage is a kind of sausage much liked by practically all classes of people. It is said to have originated in Vienna; hence its name. In America it is known under a variety of names, depending mainly on the size and style of packing and casings used.

To each two pounds of lean beef use one pound of fat pork. Chop the meat into bits and run it thru a fine grinder. Spread the ground meat in a thin layer, and sprinkle it with salt, pepper, and mace. Other seasoning, such as sage, onions, or garlic, may be used if desired. Usually $1\frac{1}{2}$ ounces of fine salt, $\frac{1}{2}$ ounce of ground black pepper, and $\frac{1}{4}$ ounce of mace or sage, for 6 pounds of meat, makes a satisfactory seasoning. After the meat is seasoned, regrind it in order to mix the seasoning thru the meat thoroly. If the meat does not seem fine enough, it may be ground a third time; for this sausage, like bologna, cannot be ground too fine. The meat is then stuffed into the casings. Casings of different size are used, depending on the size and kind of sausage desired. For midget vienna, or "high schools," use the very smallest sheep casings, and link the sausage in three-inch links. In linking vienna sausage or frankfurters, the casing are grasped with the thumb and the first finger of each hand, with the hands as far apart as it is intended to make the sausage long; then the fingers are pressed together until the meat is pressed out from under them, and the sausage between them is whirled, twisting the casing at the fingers. This is repeated until the entire casing is linked,

the only variation being that the first sausage is whirled either toward or from the person linking, while the next is whirled in the opposite direction. This keeps the sausage from unlinking.

Ordinary frankfurters or large vienna sausages are made in exactly the same way, except that large sheep casings are used and the links are made five to six inches long.

For jumbo frankfurters pork casings are used and the links are made four to five inches long.

After the sausages are stuffed in casings, they should be hung in the smokehouse and smoked for a sufficient time to give them a rich orange color. They are then taken out and cooked at a temperature of 155° F. for five to fifteen minutes, depending on the size. Care should be taken not to have too much heat in the smokehouse nor to have the water in which the sausages are cooked too hot; otherwise the sausages may split and the entire meat be wasted.

BLOOD PUDDING

Stir thoroly a bucketful (3 gallons) of hog's blood until it is entirely defibrinated and stringy fibers can be removed, leaving only the red liquid of the blood. To this liquid add 1 teaspoonful of saltpeter and 2 ounces of fine salt. After stirring these in, allow the blood to cool.

To 7 pounds of pickled beefs' hearts and tongues (other parts of the beef may be used if these are not available) add 2½ pounds of fat pork. Cook these together for one-half hour, remove them, run the lean beef thru a fine grinder, cut the pork into bits $\frac{1}{4}$ inch square, and mix the beef and the pork. Stir the meat into the cold blood and add salt, pepper, and other spices. Usually 1½ ounces of fine salt and $\frac{1}{2}$ ounce of finely ground black pepper, for 6 pounds of meat, makes a satisfactory seasoning. If the mixture is not thick enough to stuff into casings, add enough finely ground cornmeal to make it the consistency of thick mush. Mix thoroly, stuff into beef bungs, and tie in fifteen- or eighteen-inch lengths. Cook the stuffed sausages at a temperature of 160° F. for an hour and a half, or until a sharp stick or pin can be run into the center — not thru the sausage — and withdrawn without being followed by any blood. Lay the sausages on a table so that they may become solid, and turn them over after a half hour. After they have cooled until they are solid, they are ready for use. If they are to be kept for any length of time, they should be smoked for eight to ten hours.

LIVER SAUSAGE

To 4 pounds of well-cooked pork from boned hogs' heads or jowls add 2½ pounds of well-cooked pork or beef liver, 3½ pounds of well-cooked tripe, and $\frac{1}{2}$ pound of flour. Cut the meat, liver, and tripe into small pieces, and, after mixing them thoroly with the flour, put the mixture thru a coarse grinder. Season the mixture with 3 ounces fine salt, 1 ounce finely ground pepper, and $\frac{1}{2}$ ounce finely powdered sage, and regrind. One finely chopped onion may be added if desired. Stuff the meat into hog bungs or round casings, and cook the sausages for ten minutes in boiling water. After cooking lay them in ice water to cool and whiten, and then hang them up to dry.

CERVELAT, OR SUMMER SAUSAGE

Cervelat, or summer sausage as it is often called, is a hard dry sausage that is highly seasoned and will keep indefinitely if kept in a dry place so that it does not mold. For this sausage 20 pounds of lean beef and 10 pounds of lean pork trimmings are used. Cut the meat into small pieces and, after thoroly mixing it, grind it very fine. The usual method is to grind it once thru a fine plate, add the seasoning, and, after thoroly kneading in the spices, to regrind it as many times as is necessary to obtain the proper fineness. The seasoning used is $1\frac{1}{2}$ ounces fine salt, $\frac{1}{2}$ ounce finely ground pepper, $\frac{1}{2}$ ounce sage, for every 6 pounds of meat. Whole white pepper may be added after the last grinding if desired.

After the meat is seasoned and ground, spread it on trays in a cool, dry place for three or four days, after which stuff it into hog middles, tie them in twenty-four-inch lengths, and smoke them for from five to seven days in a cool smokehouse. This sausage is not cooked, but is allowed to dry or age for some time before being ready for use.

POLISH SAUSAGE

Polish sausage is sometimes call Mett sausage; the two differ only in the size and shape of the sausage. When called Polish sausage the meat is stuffed into narrow hog casings and linked, the links being about three inches long; in Mett sausage the meat is stuffed into round casings and made into sausages about six inches long, the ends being tied together to form a ring.

To 9 pounds of beef are added 3 pounds of pork trimmings and $\frac{1}{3}$ pound of buckwheat flour. The beef and pork should each be ground finely and then mixed. To the meat add the flour, and for every 6 pounds of meat $1\frac{1}{2}$ ounces salt, $\frac{1}{2}$ ounce finely ground pepper, $\frac{1}{2}$ ounce sage, $\frac{1}{2}$ ounce mustard seed. Regrind the mixture so that the seasoning and the flour will be thoroly mixed thru it. Stuff the mixture into casings, smoke the sausages for two hours, and then cook them for eight minutes in water at a temperature of 165° F. Care should be taken to see that the smokehouse is not too hot, for if it is the grease will cook from the sausage and it will be dry and tasteless.

SAUSAGE CASINGS

Casings are made from the intestines of sheep, hogs, and cattle, and are thoroly cleaned and prepared before being used. Sausage casings may be bought ready for use at a fairly reasonable price, or they may be cleaned on the farm. Sheep casings are used for vienna sausage (wiener-wurst) and for frankfurters. Pork casings are used for pork sausage, liver pudding, and jumbo frankfurters. Beef rounds, made from the small intestine, are used for bologna; beef bungs, made from the large intestine, are used for large bologna and for ham sausage; beef middles are used for bologna and for summer sausage.

To clean sausage casings, empty them and wash them inside and outside, and soak them in a solution of lye or some other alkali water. Then turn them and scrape them both inside and outside, to remove the slime and the fat. Wash and re-turn them, and pack in salt until needed.

SCRAPPLE

Scapple is usually made from the heads and the feet of hogs, but it may be made from any part of the pork carcass. If heads are used, split them thru the center, place them in a cooker or a kettle with enough water to cover them, and cook them until the meat separates from the bone. Take out the meat and the bones, and save the broth for future use. Pick all the bones from the meat, chop the meat finely, add this to the broth, and replace the whole on the stove to boil. Add enough cornmeal (ground fine) and buckwheat flour to the broth, in the proportion of 9 parts of cornmeal to 1 part of buckwheat flour, to make it as thick as mush. The meal and the flour should be mixed dry, and added gradually while the broth is being stirred, in order to prevent lumpiness. Stir the mixture for fifteen minutes and then allow it to cook slowly for an hour, when it should be of the consistency of thick mush. Pour the scrapple into shallow pans and allow it to cool. It can then be sliced and fried.

BONELESS BOILED HAM

Only cured and smoked hams are used for this purpose. The ham is first boned by disjointing the joint on the lower, or front, side and then removing each round bone by inserting a thin knife flat against the bone and cutting around it without disturbing the meat. The ham is then skinned and wrapped or wound with twine, to make it solid and compact. A layer of cheesecloth is then fastened around the meat, and it is cooked from eight to ten hours, according to the size of the ham, at a temperature of 150° F. After the ham has thoroly cooled, the cloth may be removed, and the ham is ready for use.

JELLIED HEARTS OR TONGUES

Jellied hearts or tongues furnish an excellent method of making these by-products into an attractive and appetizing form of cooked meat. The hearts or tongues are first pickled according to the recipe given on page 149 for sugar-cured hams and bacons except that they need to remain in the pickle for only two weeks. They are then washed and cooked for two hours, or until tender. The tongues are then skinned, and the meat is packed in pans that are about four inches deep. The broth is cooked down until only enough remains to cover the meat, and two tablespoonfuls of gelatin is added to each quart of liquid. The liquid is then poured over the meat. The pans are set in a cool place, and the contents allowed to jelly, after which the jellied meat may be turned out of the pans and sprinkled with pepper. A sharp knife is necessary to slice the jelly successfully.

JELLIED TRIPE

Jellied tripe may be made in the same manner as jellied hearts and tongues.

The tripe should be carefully cleaned before being put in the pickle, and any scum that rises to the surface while it is being cooked should be removed.

SMOKING MEATS ON THE FARM

The smoking of cured meats aids in their preservation because the smoking process closes the pores of the meat or casings, and the creosote is objectionable to some insects.

Smoking gives a desirable flavor to the meat if the proper kind of fuel is used. Green hickory is best, but other hardwoods or corncobs may be used if hickory is not available. Resinous woods should never be used, as they give an objectionable flavor to the meat. Corncobs are commonly used, but are not so satisfactory as hickory because of the fine ash that is forced upward by the heat and settles on the meat, giving it a dirty appearance. Juniper berries and fragrant woods are sometimes added to the fire, to give desired flavors.

Proprietary smoking preparations are not to be recommended, as a whole, because they hasten the curing process and do not give as desirable a flavor as does the ordinary smoking process. Some of these preparations also contain substances that cause digestive disorders when the meat is eaten. This is especially true of the various dips used to take the place of smoking.

THE SMOKEHOUSE

The smokehouse may be of any size or construction, to suit the needs of the owner. If the house is to be used only once and only a small amount of meat is to be smoked, a large barrel or a dry goods box may be used. If the house is to be permanent, it is often worth while to build it of brick, concrete, or stone, in order to avoid all risk of loss by fire. A frame house may be used, provided that care is taken to confine the fire to the center of the floor, or to build it in a large iron kettle, so that it will not spread to the house. The safest method of smoking meat, and at the same time of preventing the smokehouse from getting too hot, is to dig a small furnace pit in the ground about ten or twelve feet from the smokehouse, and have the smoke carried from this to the house thru a galvanized pipe laid on top of the ground and covered so that it will not be crushed.

The method of construction of the smokehouse should allow ample ventilation, and there should be some means of regulating the draft. This can be done by having the outlet for the smoke under the eaves and the intake for the air at the furnace, if this is used; or, if the furnace or outdoor fire method is not used, an adjustable air intake may be attached to the door and covered with a heavy screen to keep out flies and rats.

For ordinary farm use, the house should be about eight feet square and eight to ten feet high, so that the meat will hang six to seven feet above the fire and near enough to the roof to get the benefit of the thick smoke and yet be below the level of the ventilators.

THE SMOKING PROCESS

Meat that has been pickled should be removed from the brine at least a day before it is to be smoked, and after being washed in warm water it should be hung up to dry until it is ready to smoke. The meat should be hung in the smokehouse, with no two pieces touching each other, and then a fire should be started heating the house gradually. The meat should be kept warm, but not hot enough to dry the outside too much and prevent the smoke from penetrating. There should be as much smoke as possible, but no more heat than is necessary.

In winter the fire should be kept burning constantly until the smoking is completed, for if the meat is allowed to cool too much the smoke will not penetrate it. Meat that has been frozen should not be put into the smokehouse until it is thawed.

In warm weather there is danger of getting the meat too hot, and for this reason it is good practice to let the fire die down every other day until the meat has become properly smoked.

After the meat has become properly colored, it should be cooled (but not allowed to freeze) by opening the ventilator on the door, leaving it open until the meat hardens. It may then be packed away for future use. If warm hams are piled one upon another before they are cooled, sweating occurs where the two touch, and decomposition soon sets in.

The meat may be kept in the smokehouse for a time if the weather is not too warm, but the house should be kept free from flies.

If the smoked meat is to be used immediately, no further care is needed; but if it is to be held until summer it should be wrapped in clean, white paper, and a covering of muslin sewed on to protect it from insects. It should be kept where it will not be subject to extreme change of temperature or to dampness.

If the meat is to be kept for a considerable length of time and absolute safe-keeping is desired, the following directions, given by the United States Department of Agriculture in Farmers' Bulletin 183, page 37, should be followed:

"For absolute safe-keeping for an indefinite period of time, it is essential that the meat be thoroughly cured. After it is smoked and has become dry on the surface it should be wrapped in parchment paper; or old newspapers will do where parchment cannot be had. Then inclose in heavy muslin or canvas, and cover with yellow wash or ordinary lime whitewash, glue being added. Hang each piece out so that it does not come in contact with other pieces. Do not stack in piles.

"Recipe for yellow wash.—For 100 pounds hams or bacon take

3 pounds barytes (barium sulphate)
0.06 pound glue
0.08 pound chrome yellow (lead chromate)
0.40 pound flour

"Half fill a pail with water and mix in the flour, dissolving all lumps thoroughly. Dissolve the chrome in a quart of water in a separate vessel and add the solution and the glue to the flour; bring the whole to a boil, and add the barytes slowly, stirring constantly. Make the wash the day before it is required. Stir it frequently when using, and apply with a brush."

REFERENCES

- Boss, Andrew. Meat on the farm: butchering, curing, and keeping. U. S. Agr. Dept. Farmers' bulletin 183 : 1-39. 1906.
Wilder, F. W. The modern packing house, p. 1-554. 1905.
Tomhave, W. H., and Gaumnitz, D. A. Dressing and curing meat for farm use. Minnesota Agr. Exp. Sta. Extension bulletin 11 : 1-20. 1910.